

DONNACONA

INSULATING BOARD



FOR
BUILDING — SHEATHING
INSULATION — SOUND ABSORPTION
DECORATIVE FINISH



SOLE VICTORIAN AND TASMANIAN DISTRIBUTORS:

H. BEECHAM & CO. PTY. LTD.

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624-660 LONSDALE STREET, MELBOURNE, C.1

Phones: MU 6361 (6 lines)



DONNA CONA

INSULATING BOARD

A Manufactured Board Made from First
Quality Wood and Combining Great
Structural Strength with
Unusual Insulating
Value.



USED FOR
Sheathing—Insulating—Sound Deadening
and Plaster Base—also for Exterior
and Interior Finish.



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Description

Donnacona Insulating Board is a manufactured board made from first quality wood and combining great structural strength with unusual insulating value.

Donnacona Board is a product of Canada. It is used for lining, insulating, sound deadening, as a plaster base, and for exterior and interior finishes.

The Board has a pleasing rough cast surface of natural buff colour, which is of itself a beautiful finish. Any scheme of decoration may be applied, and the rough cast surface or the reverse side of the board allows a choice of decoration. Successful treatment is possible not only in plain colour but also in the more elaborate two-tone and stippled effects.

In climates where extremes of temperature are encountered, Donnacona Board is especially useful. In summer it adds to the comfort of the home and is particularly recommended for the roofs and walls of bungalows. In cold climates the insulating qualities of the Board keep houses lined with Donnacona Board warm and cosy. The fuel saving is also an important item especially in severe winters. Fuel savings of over 50 per cent. have been reported but, of course, this will depend on the number of layers of board used and the care with which it is erected.

Quite a few of the illustrations indicate what can be done in the way of interior decoration on Donnacona Board surfaced walls. Here much depends on the taste of the Architect and the skill with which the work is done. Donnacona Board has definite sound absorbing properties, and this fact, together with its susceptibility to pleasing decorative effects, makes it a popular wall and ceiling covering. While these qualities are essential in broadcasting studios, cinemas and concert halls, they are also greatly appreciated in restaurants, hospitals, shops and offices. In the home the sound absorbing feature is of particular importance in these days of loud speakers and noisy traffic.

There are many other uses to which Donnacona Board may be put. It is always recommended when special applications are considered that an Architect be consulted, but when this is not feasible it should be remembered that Donnacona Board is a wood product, and it should never be used under conditions which would cause the rapid deterioration of good timber.

One of the great advantages of this material is the ease and rapidity with which it can be erected by unskilled labour. The only tools required are those usually found in any carpenter's kit, and handy men will find it very convenient for making a wide variety of small buildings, such as garden tool houses and garages.

CHARACTERISTICS

The chief characteristics of this material are:—

- (1) High insulating value to the transmission of heat.
- (2) High sound absorption value.
- (3) Great strength per unit of weight.
- (4) The ease and speed with which it can be erected.
- (5) A unique "Rough Cast" surface.

Donnacona and similar products are now universally well known, the merits of insulating boards having won them an important place among materials of construction. It is estimated that some 500,000,000 square feet of insulating board were used in 1935. Among the most common uses of insulating board are the following:—

- (1) Interior lining for walls and ceilings.
- (2) As a plaster base.
- (3) Thermal Insulation of walls and roofs.
- (4) Acoustical Correction.
- (5) Sound deadening.
- (6) Exterior work.

SIZES

The Standard Sizes Available of Donnacona Insulation Board are as follows:—

$\frac{1}{2}$ " THICK, TEXTURED, OR ROUGH-CAST FINISH.

8' x 3'	9' x 3'	10' x 3'	12' x 3'
8' x 4'	9' x 4'	10' x 4'	12' x 4'
also 12' x 7'			

$\frac{1}{2}$ " THICK, BURL (SANDED) FINISH.

8' x 3'	10' x 3'	12' x 3'
8' x 4'	10' x 4'	12' x 4'

1" THICK, TEXTURE, OR ROUGH-CAST FINISH.

12' x 3'
12' x 4'
12' x 7'

MOULDED COVER STRIPS, $1\frac{3}{4}$ " in 8' lengths.

MOULDED CORNICE, $3\frac{1}{2}$ " in 8' lengths.

PACKING

In order that these boards shall reach the consumer in perfect condition, special attention is paid to crating. The boards are wrapped in heavy kraft paper, and the edges of each bundle are then protected by one-inch timber, the whole being held together by adequate steel strapping. Standard Donnacona Board crated weighs approximately 730 lbs. per 1,000 square feet. Uncrated, the Board weighs approximately 650 lbs. per 1,000 square feet. (See table on back cover for number of sheets per crate.)

SOUND ABSORPTION

As a sound insulator, Donnacona Board is remarkably effective and will deaden the transmission and passage of noise, particularly in framed construction, where this nuisance is most prevalent. The cost of installation is comparatively small and the results last the lifetime of the building.

On page 16 is a table showing the sound absorption values of Donnacona Board for various sound frequencies. It will be noticed that the mean of all readings is upwards of .25; also that the values are fairly constant over the entire range of pitches. This latter point is very valuable in a material used for acoustical correction. It would be detrimental to good acoustics if sounds at any particular pitch were affected unduly. The approximate sound absorption values for various materials of construction at a pitch of 512 are shown below:—

MATERIAL.	Co-efficient per square foot.
Open Window	1.00
Standard Donnacona Insulating Board25
Wood Sheathing10
Plaster on Wood Lath034
Brick Wall032

When a considerable amount of sound absorption is required, the area of Donnacona Board required is fairly large, but this is not a serious objection, as the unique rough cast surface of Donnacona Board enables the Architect to obtain pleasing decorative effects. The area of the walls and ceiling in halls is usually large, and therefore a relatively small increase in the co-efficient of absorption on these surfaces will have a very appreciable

effect on the acoustics. It is for this reason that rooms with ceiling and walls of standard Donnacona Board have such excellent acoustical properties.

From experience with concert halls, churches, cinemas, restaurants, dance halls, etc., all over the world, it can be definitely stated that such rooms with a liberal amount of Donnacona Insulating Board on the walls and ceiling rarely need any further acoustical treatment.

When painting is necessary the fact should be borne in mind that the natural pores of the Board should be left as open as possible. A good water paint has less effect than an oil paint which tends to fill the pores, although oil paints may be necessary when it is desired that the surface be washed.

HEAT INSULATION

Tests made at the National Physical Laboratory, England, show that Donnacona Insulating Board has a thermal conductivity in the order of .37 BTU's per square foot per hour for a temperature difference of 1 degree Fahrenheit. Expressed in terms of standard building materials, 1 inch of Donnacona Board provides insulation equivalent to 3½ inches of solid wood, 12 inches of brick masonry or 24 inches of concrete. (The above co-efficient is higher than those shown in tests from North America due to basic differences in the test methods.)

This quality makes the board particularly useful as a roof insulation, where it conserves the heat and prevents condensation on the under side of the roof. In cold climates it is useful as a general building insulator and the cost of the board is soon paid by fuel economy. In hot climates its function is to keep out the heat, which adds to the comfort of the building.

When applying Donnacona Board to flat wood, concrete or metal deck roofs, the deck surface should first be mopped with hot bitumen, using 30 lbs. per 100 square feet. The insulating board is then firmly embedded and the asphalt or built-up roofing then laid in the usual manner.

At night and in wet weather during construction the Board should be covered by tarpaulins, as wet board laid between waterproof membranes will retain such moisture for long periods and the insulating value will thereby be considerably reduced.

PLASTER BASE

Donnacona Board makes an excellent plaster base. When used for this purpose the boards should be uncured, each board sprinkled lightly with water and then piled for 24 hours before fixing. The plaster should be applied to the textured surface. A calcium sulphate (gypsum) plaster with a medium (not flash) set should be used. Do not use lime plaster. The minimum thickness of plaster should be ⅛ inch.

The joint treatment under plaster calls for a certain amount of care. A space of a $\frac{1}{4}$ inch should be left between each sheet of Donnacona. The joints are then reinforced by a light galvanised wire mesh or plasterer's hessian scrim cemented over the joint.

A wall made of Donnacona Board finished with plaster has considerably greater resistance to sound transmission than lath and plaster as usually erected.

So great is the bond existing between Donnacona Board and gypsum plaster that it is practically impossible to separate it from the board by ordinary means.

FIRE RESISTANT

Donnacona Board is specially treated for fire resistance and may be classed as "slow-burning" material. It will successfully withstand the onslaught of fire against its surfaces for a considerable period of time.

WATER REPELLANT

Due to the particular process by which Donnacona Board is manufactured, the entire mass of fibre composing it is waterproofed throughout, making it by far the most water-repellant Building Board of its type ever placed on the market. After drying out, the structural strength of the board is in no way impaired.

VERMIN PROOF

Donnacona Board is specially treated against Vermin, which cannot live in it. Rats and Mice will not attack it.

AS AN INTERIOR FINISH

The unique "Rough Cast" surface of Donnacona Board has made it very popular with Architects all over the world.

The board, when used for exposed surfaces can be left in its natural state or painted. When so used panel pins or finishing nails, driven at an angle and punched home, should be used to hold the board in position.

Before painting, the board should be given a good coat of glue-size applied hot (three-quarters of a pound of ground glue per gallon of water). Any good paint can then be applied in the usual manner.

It is unnecessary to size Donnacona Board when distempers are applied.

Stains and dyes can be used with good effect on Donnacona.

JOINTS.

Joints adequately handled may be made a pleasing feature of the architectural effect. They may be accentuated with wood, metal, or Donnacona cover strips, which give the usual panelled effect, but some of the most beautiful effects are obtained by using a raked or recessed joint. The joints may also be accentuated by bevelling the edges of the board or by filling the joint with wood or metal beadings.

The illustrations in the latter part of this book show all these methods, sometimes to give horizontal as well as vertical effects.

We have available for loan to clients, free of charge, special planes suitable for grooving, bevelling and rebating, or can supply trained labour to do the work at a nominal cost.

FIXING INSTRUCTIONS

It is almost unnecessary to issue specific instructions regarding the methods of fixing Donnacona, which is a wood product and will usually react to any special conditions in a similar manner to wood.

A few general rules are given below:—

- (1) As the board will conform to the surface to which it is fastened, it is imperative that joists, studs, battens, etc., be accurately lined up.
- (2) All joints must be adequately supported by wood bearers.
- (3) Nailing should be started from the centre of the boards working outwards towards the edges.
- (4) Use galvanised nails 1", 1¼", or 1½" long with heads ⅜" in diameter, spaced about 6" centre to centre for ordinary work. Use panel pins 4" centre to centre, driven at an angle when using Donnacona as an interior finish in its natural state, or for intermediate nailing when used as a base for paints.
- (5) Donnacona Insulating Board is cut slightly smaller than the actual standard dimensions. This allows a clearance of ⅛ to ¼ of an inch to be left between the boards which should never be tightly butted.
- (6) When painting Donnacona Insulating Board a good glue-size should be first applied. This will greatly increase the coverage obtained with paint.
- (7) After sizing, any good paint will give satisfactory results.
- (8) It is unnecessary to size Donnacona Board when distempers or water paints are applied.

DONNACONA

has been used in

PICTURE THEATRES

BROADCASTING STATIONS

HALLS

CHURCHES

CHAPELS

HOMES

BUNGALOWS

OFFICES AND SHOWROOMS

HOTELS

DINING ROOMS

FACTORIES

FARM BUILDINGS

SCHOOLS

COOL STORES AND
REFRIGERATORS

HOT HOUSES

TEMPORARY SHELTERS

SHIPS

AIR-CONDITIONED TRAINS

CARAVANS

And in many other Buildings and Structures.

The following pages contain photographs of various buildings in Victoria where Donnacona has been used, and the illustrations of Window Display Panels also show the adaptability of Donnacona for display purposes.

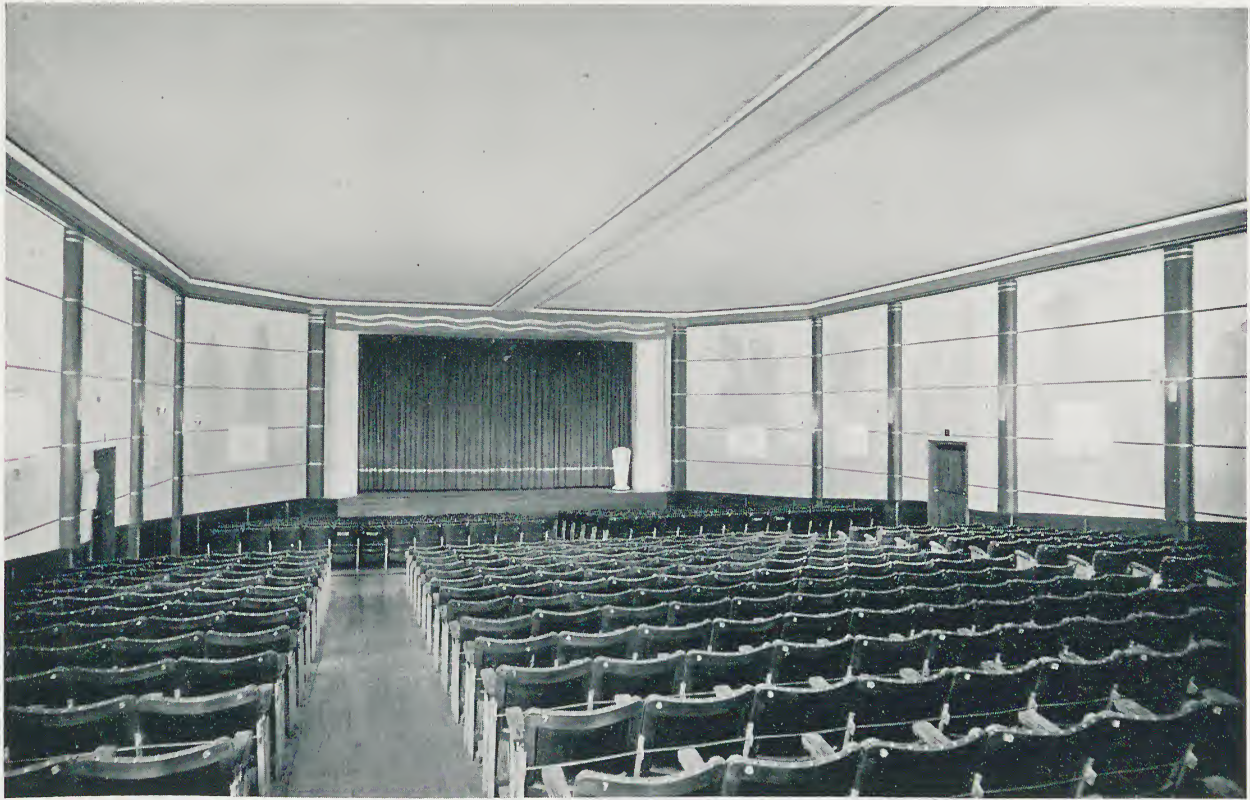
Apart from these photographs, illustrations are available of installations in England, Canada, New Zealand and elsewhere. The Board has been used by Broadcasting House, London, in its Studios, also at Birmingham, Glasgow, Leeds and Newcastle. Such important installations afford ample evidence of the value of Donnacona as an acoustical and insulating medium.



STUDIO No. 2 AT 3LO MELBOURNE, AUSTRALIAN BROADCASTING COMMISSION
Walls and Ceiling lined with $\frac{1}{2}$ " Textured Donnacona.

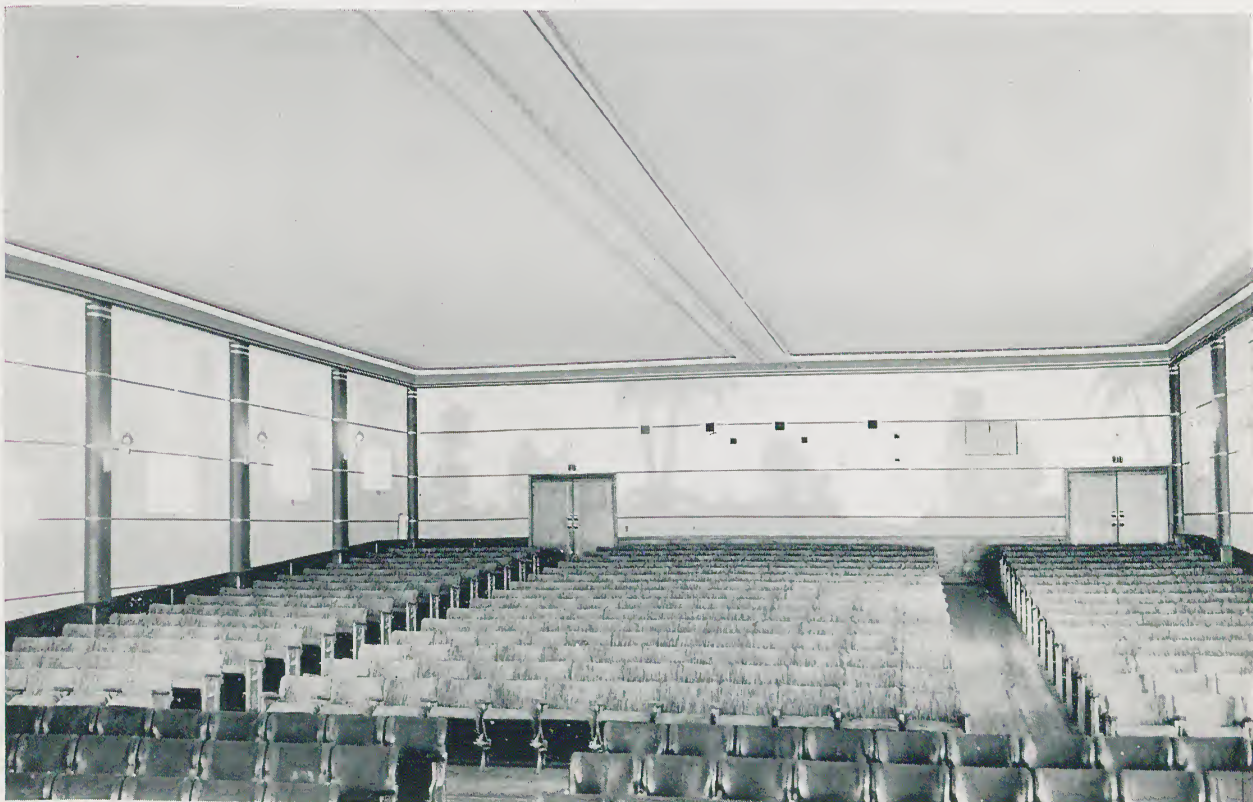


BELWORTH HOSIERY, 683 SYDNEY ROAD, COBURG, MELBOURNE
Roof lining of $\frac{1}{2}$ " Textured Donnacona.



BELGRAVE PICTURE THEATRE, VICTORIA

Shadow Decoration, in dry point on unprepared $\frac{1}{2}$ " Textured Donnacona. Perfect acoustics — recognised as one of the finest audition halls in Victoria.



BELGRAVE PICTURE THEATRE, VICTORIA

Shadow Decoration, in dry point on unprepared $\frac{1}{2}$ " Textured Donnacona.



DINING HALL, POSTAL INSTITUTE, G.P.O., SPENCER STREET, MELBOURNE
Ceiling lined with $\frac{1}{2}$ " Textured Donnacona.



SHOP DISPLAY AT BALL & WELCH LIMITED, DRAPERS, MELBOURNE
With dry point decoration direct on unprepared No. 1 Burl Donnacona.



BRUNSWICK STREET METHODIST CHURCH, FITZROY
 Wall lined with 1" Textured Donnacona over existing wall to correct acoustics.



BAND ROOM, ROYAL MELBOURNE REGIMENT, VICTORIA STREET, MELBOURNE
 Ceiling and cornice lined with 1/2" Textured Donnacona.



BELGRAVE PICTURE THEATRE, VICTORIA

Shadow Decoration, in dry point on unprepared $\frac{1}{2}$ " Textured Donnacona.



WINDOW DISPLAY PANEL — BALL & WELCH LTD., DRAPERS, MELBOURNE

"RUSSIAN TRAPPER AND GAME"

With dry point decoration direct on No. 1 Burl Donnacona without priming or undercoating.



SEAMEN'S MISSION CHAPEL, PORT MELBOURNE

Donnacona Wood Fibre Board was used exclusively for insulation and acoustics
in the ceiling of this Chapel.

TABLE No. I.

SOUND ABSORPTION CO-EFFICIENTS OF STANDARD DONNACONA BOARD.

OPEN WINDOW = 100.

	FREQUENCY.						
	120	250	500	1000	2000	4000	Mean
(1) 1/2" Standard Donnacona Board (Prof. Anderson, Toronto University)	17.0	18.0	20.0	22.0	21.4	33.0	21.9
(2) 1/2" Standard Donnacona Board (H. Vivian Taylor, Melbourne, Australia)	26.0	22.0	18.3	25.0	33.0	37.5	27.0
(3) 1/2" Standard Donnacona Board (Test by competent United Kingdom Authority)	21.0	32.0	31.0	30.0	33.0	35.0	30.3
MEAN (1) (2) (3)	21.3	24.0	23.1	25.4	29.1	35.2	26.3

	FREQUENCY.				
	128	256	512	1024	4096
(4) 1/2" Standard Donnacona Board (Bureau of Standards, Washington, D.C.)38	.25	.22	.23	.36
				.29	.29

NOTE.—Bureau of Standard results are tabulated separately owing to different frequencies.

TABLE No. II.

SQUARE FOOTAGE CONTAINED IN CRATES OF HALF-INCH DONNACONA INSULATING AND ACOUSTIC BOARD.

(Each Crate contains 8 Sheets, except 12 X 7 — 4 Sheets).

SIZE.	NUMBER OF CRATES.												SIZE.
	1	2	3	4	5	6	7	8	9	10	11	12	
8' X 3'	192	384	576	768	960	1152	1344	1536	1728	1920	2112	2304	8' X 3'
9' X 3'	216	432	648	864	1080	1296	1512	1728	1944	2160	2376	2592	9' X 3'
10' X 3'	240	480	720	960	1200	1440	1680	1920	2160	2400	2640	2880	10' X 3'
12' X 3'	288	576	864	1152	1440	1728	2016	2304	2592	2880	3168	3456	12' X 3'
8' X 4'	256	512	768	1024	1280	1536	1792	2048	2304	2560	2816	3072	8' X 4'
9' X 4'	288	576	864	1152	1440	1728	2016	2304	2592	2880	3168	3456	9' X 4'
10' X 4'	320	640	960	1280	1600	1920	2240	2560	2880	3200	3520	3840	10' X 4'
12' X 4'	384	768	1152	1536	1920	2304	2688	3072	3456	3840	4224	4608	12' X 4'
12' X 7'	336	672	1008	1344	1680	2016	2352	2688	3024	3360	3696	4032	12' X 7'

Manufactured by — THE DONNACONA PAPER COMPANY, LTD., Mills at Donnacona, P.Q., Canada.

H. BEECHAM & CO. PTY. LTD.

REGISTERED OFFICE

624-660 LONSDALE STREET,
MELBOURNE

DONNACONA

STANDARD INSULATING BUILDING BOARD

STOCK SIZES

8' x 3' 9' x 3' 10' x 3' 1' x 3'

8' x 4' 9' x 4' 10' x 4' 12' x 4'

Also 12' x 7'.

STANDARD THICKNESS, $\frac{1}{2}$ inch.

SPECIAL INSULATION, 1 inch thickness.

MOULDINGS — $1\frac{3}{4}$ inch Cover Strips.

$3\frac{1}{2}$ inch Cornice Mould.

Weight Crated for Export, 730 lbs. per 1,000 square feet.

$\frac{1}{2}$ " Packed 8 Sheets per Crate (except 12' X 7', 4 per crate).

1" Packed 4 Sheets per Crate (except 12' X 7', 2 per crate).

SQUARE FEET PER CRATE, $\frac{1}{2}$ " BOARD.

8' X 3' = 192	12' X 3' = 288	10' X 4' = 320
9' X 3' = 216	8' X 4' = 256	12' X 4' = 384
10' X 3' = 240	9' X 4' = 288	12' X 7' = 336

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